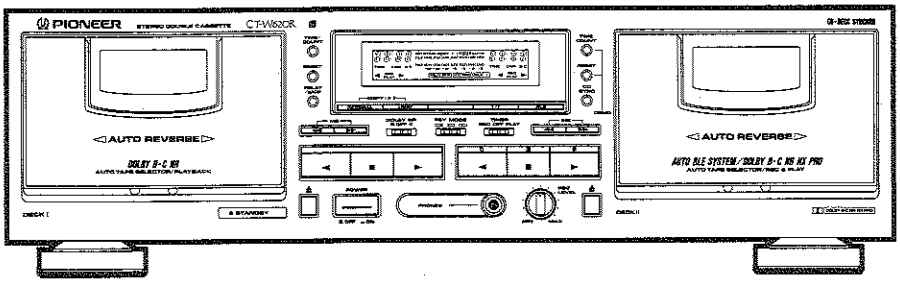
Operating Instructions

STEREO DOUBLE CASSETTE DECK

CT-W620R/CT-W602R
CT-W502R
CT-W420R/CT-W402R



- The above illustration shows CT-W620R.
- For the demo function, refer to back cover of these operating instructions.

Thank you for buying this Pioneer product.
Please read through these operating instructions so you will know how to operate your unit properly. After you have finished reading the instructions, keep the manual in a safe place for future reference.
In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

IMPORTANT NOTICE
[For U.S. and Canadian models]

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area for future reference.

[For Canadian model]

CAUTION: TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

ATTENTION: POUR PREVENIR LES CHOCS ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."

PIONEER®
The Art of Entertainment

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION:
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The cut-off plug should be disposed of and must not be inserted into any 13 amp socket as this can result in electric shock. The plug or adaptor or the distribution panel should be provided with 13 amp fuse. As the colours of the wires in the mains lead of this appliance may not correspond with coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

NOTE
After replacing or changing a fuse, the fuse cover in the plug must be replaced with a fuse cover which corresponds to the colour of the insert in the base of the plug or the word that is embossed on the base of the plug, and the appliance must not be used without a fuse cover. If lost, replacement fuse covers can be obtained from your dealer.
This appliance is rated at 13 amps.
Only 13 amp fuses approved to B.S.
1362 A.S.T.A. should be used.

ETY INSTRUCTIONS

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

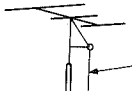
- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges.
In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA 70, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

CART — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

NEC — NATIONAL ELECTRIC CODE



ANTENNA
LEAD IN

o comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These rotection against harmful interference in a residential installation. This equipment generates, rgy and, if not installed and used in accordance with the instructions, may cause harmful vever, there is no guarantee that interference will not occur in a particular installation. If this to radio or television reception, which can be determined by turning the equipment off and on, interference by one or more of the following measures:

a.

pment and receiver.

a circuit different from that to which the receiver is connected.

io/TV technician for help.

out appropriate authorization may invalidate the user's right to operate the equipment.

the Class B limits for radio noise emissions from digital apparatus set out in the Ra- nadian Department of Communications.

e par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le électriques, section appareil numérique, du Ministère des Communications.

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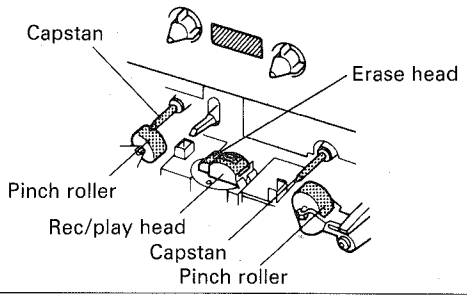
MAINTENANCE



CLEANING THE HEADS, PINCH ROLLERS AND CAPSTANS

The heads, pinch rollers and capstans are likely to get dirty quite easily. If these parts, particularly the heads, get dirty, the high frequency components of a recording will not be reproduced and the stereo balance will be impaired, resulting in a deterioration of the playback sound. It is therefore recommended that the head section be cleaned regularly.

1. Set the POWER switch to OFF.
2. Press the eject button to open the cassette door.
3. Dip a cleaning swab in cleaning fluid and use it to wipe the heads, capstans and pinch rollers.

NOTE:
After cleaning the head section, do not load a tape until the cleaning fluid has dried completely (about two or three minutes).

DEMAGNETIZING THE HEADS

After using the cassette deck for a period of time, the heads will become magnetized. The same effect will occur if a magnetized screwdriver, magnet or other magnetized object is brought too close to the heads. When the heads become magnetized, high-frequency sounds will be lost during recording or playback, and interference noise may also occur. The heads should be regularly demagnetized with a head demagnetizer, which can be purchased at most audio stores.
When demagnetizing the heads, make sure that the POWER switch of the cassette deck is set to ON. However, be sure to turn down the amplifier's volume control to its lower position, and disconnect any headphones from their headphones jack. For detailed instructions, refer to the operating instructions of the head de-

CHECK CASSETTE BEFORE USE

Check the following items before loading a cassette tape:

Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is loose or projecting outside the cassette shell, the tape may not properly enter between the capstan and pinch roller. This will prevent the tape from being loaded properly, and may even damage the tape itself. In such cases, insert a pencil into the reel hole and take up the slack (Fig. A).
Some cassette tapes come with a plastic or thick paper stopper to prevent the tape from becoming slack. Remove this stopper when loading the cassette and replace it after using the cassette.

Are the accidental erasure prevention tabs intact?

These tabs allow you to prevent important recordings from being erased accidentally. When the tab on the cassette shell is broken off (Fig. B), it is not possible to activate the recording function, so valuable recordings will not be erased by mistake.
To rerecord on a cassette whose tab has been broken off, simply stick a piece of doubled adhesive tape over the hole (Fig. C).
When using TYPE IV (Metal) or TYPE II (High/CrO_2) tapes, be careful not to block the sensor holes with the tape (Fig. D, Fig. E). If the holes are blocked, the automatic tape selector mechanism will not operate correctly.

NOTES:

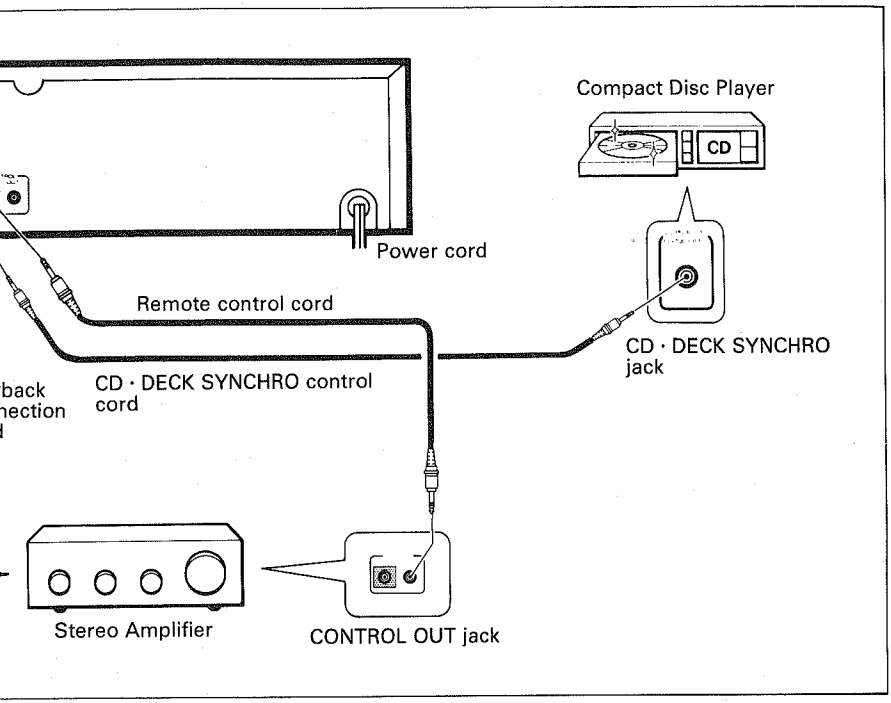
- *The accidental erasure prevention tab for each side is the one located on the top left when the side that you want to protect is facing you.*
- *When breaking off the tab, do not use a magnetized screwdriver.*

AUTOMATIC TAPE SELECTOR FUNCTION

This cassette deck is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used. The deck is then set to match the tape recording bias and equalization.

NOTES:

- *When using TYPE IV (Metal) tapes, make sure that the tapes have sensor holes.*
- *Make sure that the sensor holes on the cassette are not blocked; otherwise the tape selector mechanism will not function properly.*
- *Do not use TYPE III (FeCr) tapes.*



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NOTES:

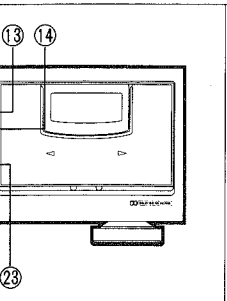
- *Keep the input and output jacks connected between the amplifier and this unit, otherwise, CD · DECK SYNCHRO recording cannot be carried out.*
- *Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to the amplifier or this unit with the input and output cords that have pin plugs.*

PIONEER SYSTEM REMOTE CONTROL

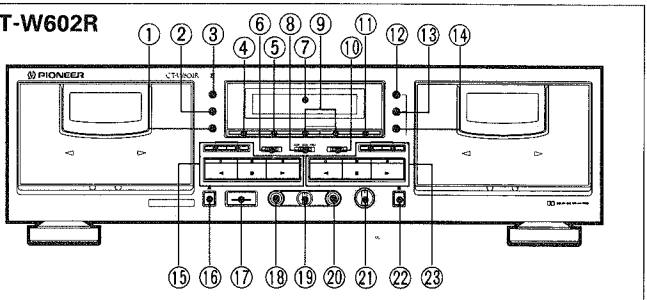
CONTROL IN jack

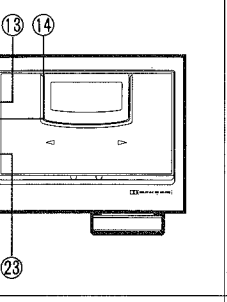
Use the enclosed Remote Control Cord to connect this jack to the CONTROL OUT jack of another component which bears the SR mark (indicating that it is equipped with PIONEER System Remote Control). You will then be able to operate this unit using the Pioneer system remote control unit. If the remote control unit does not have separate buttons for deck I and deck II, or a selection button to choose deck I or deck II, the buttons will only operate deck II. To operate deck I with a remote control unit which was not designed for double deck cassette decks, see page 8.

LITIES

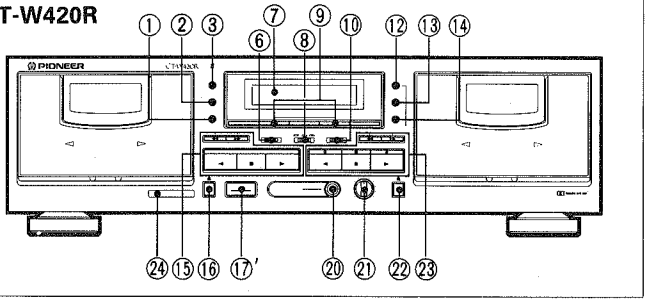


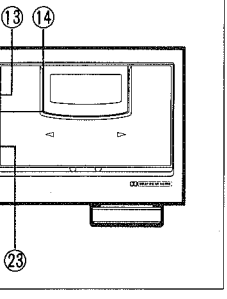
CT-W602R





CT-W420R





⑮ Deck I operation buttons

◀ : Reverse playback (CT-W620R/CT-W602R/CT-W502R/CT-W420R only)

REWIND AUTO PLAY : Rewind autoplay (CT-W402R only)

▶ : Forward playback

◀◀/MS : Fast reverse/music search

■ : Stop

▶▶/MS : Fast forward/music search

O : Recording mute (CT-W602R only)

II : Pause (CT-W602R only)

● : Recording (CT-W602R only)

⑯ DECK I eject button (⏏)

- If the tape is moving (recording, playback, tape winding, etc.), press the stop (■) button before pressing this button.

NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject (⏏) button.

⑰ POWER STANDBY/ON switch (CT-W602R/CT-W502R/CT-W402R)

THE POWER SWITCH IS SECONDARY CONNECTED AND THEREFORE DOES NOT SEPARATE THE UNIT FROM MAINS POWER IN STANDBY POSITION.

COUNT)

W602R/CT-W502

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HX PRO" are trade-

the stop button of the desired DECK while it is in stop mode.

NOTE:

If the power is turned off, or if a power failure or a sudden change in the power supply (caused by lightning, etc.) occurs, the unit is reset to its original state. Only DECK II can be operated by remote control. To restore operation to either deck, repeat the above procedure from the beginning.

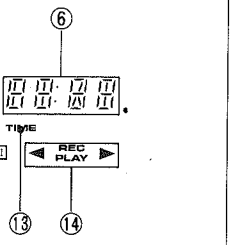
AUTO BLE (CT-W620R/CT-W602R only)

With commercially available cassette tapes, sensitivity and frequency characteristics might differ slightly from one another, even though the same sound adjustment is set for them. To fully utilize tape characteristics and realize an ideal recording which reproduces the source exactly, optimum recording level (sensitivity) and equalizer values must be set accordingly for each tape. In many conventional tape decks, standard values are fixed for standard tapes, thus nullifying the subtle differences between individual tapes. Perfect tuning by ear through use of fine adjustment controllers for bias and sensitivity is difficult and requires a lot of effort. It is especially difficult with a 2-head deck where the recording sound cannot be monitored.

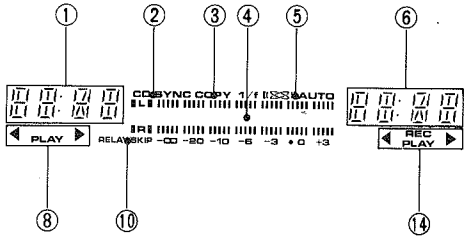
The AUTO BLE on this unit automatically adjusts the bias, level and equalizer by using a microprocessor to set the optimum recording characteristics accordingly for each tape.

FLEX (1/f) SYSTEM (CT-W620R/CT-W602R/CT-W502R only)

- FLEX System: Frequency Level Expander System
- During playback, the FLEX system automatically compensates tapes with poor sound quality at high frequency levels of 1 kHz and over, based on the appropriate auditory characteristics.
  The FLEX system performs playback with up to a 10 dB improvement in 10 kHz high frequency reproduction, particularly in tapes with poor clarity and sound presence at high frequency levels.
- When you press the FLEX (1/f) button to turn the FLEX system on and start playback, both of the ⋈ and AUTO indicators flash and compensation adjustment begins.
  Compensation adjustment takes approximately 3 to 10 seconds to complete, depending on the music source. The indicators change from a flashing to a steadily lit condition.
- When the FLEX system is engaged, each music selection is automatically adjusted during playback. System operation status is indicated by whether the AUTO indicators are flashing steadily or lit.



CT-W502R/CT-W420R/CT-W402R



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⑧ DECK I tape transport mode indicators

- See page 10.

Note:

- *The [REC] display appears on the CT-W602R.*
- *The ◀ and ▶ display does not appear on the CT-W402R.*

⑨ BLE I indicator (CT-W602R only)

- See page 14.

Note:

The BLE I and BLE II displays appear on the CT-W602R.

⑩ RELAY/SKIP indicator

This indicator lights steadily when the RELAY/SKIP button is pressed to enter the relay playback (recording)/blank skip mode.

⑪ HX PRO indicator (CT-W620R/CT-W602R only)

⑫ BLE II indicator (CT-W620R/CT-W602R only)

- See page 14.

⑬ DECK II TIME counter mode indicator (CT-W620R/CT-W602R only)

Lights steadily when the DECK II counter is in the time mode.

⑭ DECK II tape transport mode indicators

- See page 10.

■ Dolby HX PRO Headroom Extension System

TWO MODES COUNTER

Counter Mode button (TIME/COUNT)

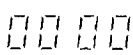
Press the button, and 2 modes change alternately.
Tape counter ⇄ Time counter

■ Tape counter

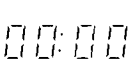
Different counters are provided for DECK I and II. The number of a counter increases/decreases as a tape runs. It is convenient if you make a note of the recorded content and range of the counter while recording or playing back. You can then easily locate the desired track or where you last recorded to resume recording.

■ Time counter

- This indicates the elapsed time for recording or playback. This automatically starts counting when recording or playback starts. During fast-forwarding/rewinding, the counter automatically switches to a tape counter.
- The time counter indicates only time duration of recording or playback. When recording or playback is changed to fast-forwarding, rewinding, or music search, the counter switches from the time counter to tape counter. When the operation returns to recording or playback, the counter switches to the time counter.
- Tape counter indication



- Time counter indication

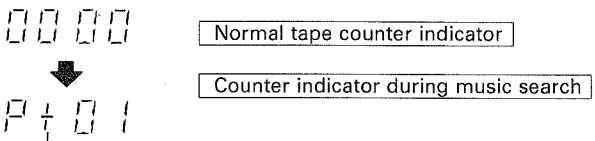


TIME ——— CT-W620R/CT-W602R only

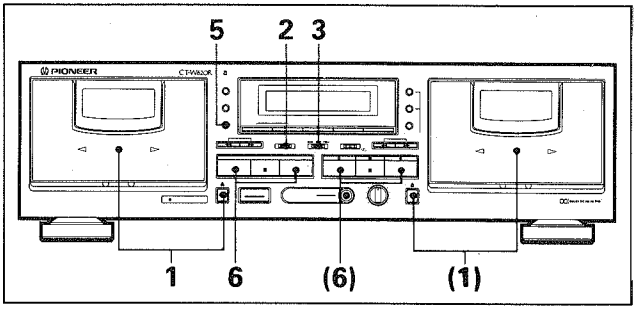
Counter reset button (RESET)

Press this button to reset the tape counter to 0000, or to reset the time counter to 00:00.

Counter indicator during music search



RELAY PLAYBACK



When relay playback mode is selected, continuous playback can be performed. When the tape in the first deck reaches its end and stops, the other deck will automatically begin playback.

1. **Load prerecorded tapes in DECK I and DECK II.**
2. **Set the DOLBY NR switch.**
   - Always set the switches to the same positions that were used for recording.
3. **Set the REV MODE switch (see page 12).**
4. **Set the stereo amplifier for tape playback.**
5. **Press the RELAY/SKIP button. The RELAY/SKIP indicator will light steadily when turned on.**
6. **Press the playback (▶ or ◀) button of the deck that will start to play first.**

   For Deck I of the CT-W402R: Press the ▶ button.
   - When the tape in one deck ends, the other deck automatically begins playback.
   - To cancel relay playback, press the RELAY/SKIP button once again (turning the RELAY/SKIP indicator off).

To improve high frequency sound during playback in tapes with poor recordings (CT-W620R/CT-W602R/CT-W502R only)

Press the FLEX (1/f) button and playback the tape.

NOTES:

- *Relay playback can begin from either DECK I or DECK II.*
- *The tape in the idle deck can be replaced during relay playback mode, allowing many tapes to be played back continuously. This is a convenient feature for parties, background music, etc.*
- *When this mode is selected, if the deck encounters an unrecorded portion of tape more than 15 seconds in length, it will*

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NOTE:
During relay playback, when a tape begins playing automatically, it always starts from the forward (▷) playback side. Make sure that the tapes are rewound properly before beginning relay playback.

MUSIC SEARCH
(Skipping forward or backward to playback a desired selection)

The music search function detects blanks (longer than 4 seconds) between selections, advances the tape in the forward or reverse direction to find the beginning of the desired selection and automatically starts playback.
It can find a selection located up to 15 selections before or after the present position.

During forward playback

When you wish to locate a future song, press the ▶▶ button as many times as the number of songs to be skipped. When you wish to listen to the song currently being played from the beginning, press the ◀◀ button once. To return to a previous song or beyond, press the ◀◀ button as many times as the number of songs to be skipped, plus one.

During reverse playback (except for DECK I of CT-W402R)

When you wish to locate a future song, press the ◀◀ button as many times as the number of songs to be skipped. When you wish to listen to the song currently being played from the beginning, press the ▶▶ button once. To return to a previous song, press the ▶▶ button as many times as the number of songs to be skipped plus one.

From the stop mode

Press the playback (▶ or ◀) button to set the playback mode, then press the ◀◀ or ▶▶ button to perform music search as mentioned above.

■ If the button is pressed more times than the number of selections recorded on the tape, forward search will continue on the opposite side, but reverse search will stop at the tape end.

NOTES:
In the following circumstances, the music search function may be unable to properly detect blanks between selections; this is not, however, a sign of a malfunction with the unit.

- *When using a tape with blanks between selections less than 4 seconds long.*
- *When listening to tapes with long low-level intervals, like classical music, or with sound breaks several seconds long within selections.*

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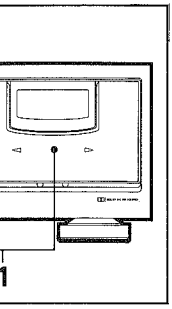
sing DECK II



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"—3 dB" indicator lights steadily most of the time. No harm will be done if the "0 dB" indicator lights momentarily at peaks. When recording without Dolby NR, set the REC LEVEL control so that the "—3 dB" indicator lights, and the "0 dB" indicator lights occasionally at peaks.

NOTES:

- *The optimal recording level may differ somewhat depending on the audio source and type of tape used. In order to obtain the best possible results, set the recording level after actual testing. Listen to your recordings, and adjust the level as necessary.*
- *The level meter may react differently during recording and playback of the same tape. This is due to differences in tape sensitivity, and creates no problem.*

RECORDING USING MICROPHONE (CT-W602R only)

1. **Connect the plug of the microphone to the MIC jack.**
2. **Follow the procedure for RECORDING given above.**
   - To adjust mic recording level (step 7), use the mic level control (LEVEL) instead of the REC LEVEL control.
   - Set the REC LEVEL control to its minimum position when recording with a microphone only.

   <Mixing recording>

   Turn the REC LEVEL control up gradually after playing back music source during microphone recording.

   Use both the REC LEVEL control and the MIC LEVEL control to adjust mixing level balance between microphone sound level and line source sound level.

NOTES:

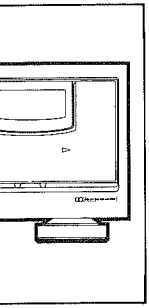
- *The MIC LEVEL control is only effective when a microphone is connected to the MIC jack.*
- *Be sure to disconnect the microphone plug from the MIC jack when not using the microphone for recording.*
- *Use a commercially available microphone when recording.*

RECORDING MUTE

Use this function to create the 4-second blanks required for proper operation of the music search function.

- Press the recording mute (O) button during recording and the deck will create a blank space by recording a section which contains no signal for approximately four seconds. The deck will then enter recording standby mode.
- To create a blank which is more than four seconds long, hold

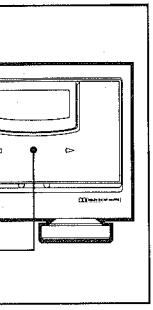
tape in DECK II
low.



osition.

ne pause (❚❚)

V602R only)



asure prevention
broken off.

UTO BLE display
teadily.

BLE operation	AUTO BLE indicator
DECK I tuning	Flashes → BLE I
DECK I tuned	Lights Steadily → BLE I
DECK II tuning	Lights Steadily → BLE I BLE II ← Flashes
DECK II tuned	Lights Steadily → BLE I BLE II ← Lights Steadly

To stop AUTO BLE tuning

To cancel AUTO BLE tuning (e.g. must record urgently), press the stop (■) button.

To reset a tuned condition

Press the BLE button again.

Error display

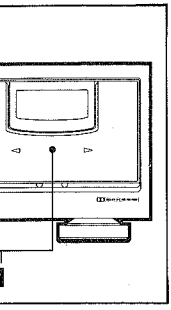
- If the old tape, the tape end or the leader (white portion) immediately prior to the tape end is reached during AUTO BLE operation, tuning becomes impossible. That means recording will stop immediately and the counter indicator will display the following (flashing) message: "Err". Press the BLE button to cancel AUTO BLE tuning, and record without AUTO BLE tuning.

The following illustrates the operation:

(Operation completed within approximately 30 seconds)
Each operation is shown on the left and right channel level meters during AUTO BLE tuning.

	Display
	Counter indicator
START	000·00 (Normal counter)
① ●Adjusting recording bias.	01 05

I to DECK



d DECK II.
ELAY/SKIP indi-
on.
14.

ch to the ⇄ posi-
ch to either the ⇉

K I.
you wish to rec-
d prepare it for

ls, see page 13
".
DECK I to begin

▶ button. If the ◀
er only one side is

ner deck automati-

ELAY/SKIP button
cator off).

you cannot record

CK I.

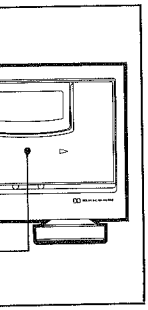
RELAY RECORDING SEQUENCE WITH REVERSE MODE SWITCH SETTING

The recording sequence depends on the setting of the REV MODE switch and on which playback (▶ or ◀) button is pressed first. The playback sequence for each possible selection is shown below.

- Relay recording always begins from the direction indicated by the tape transport indicator (▷ or ◁). To change this direction, press the desired playback (▶ or ◀) button, then immediately press the stop (■) button.

I ▷ : DECK I forward recording
I ◁ : DECK I reverse recording
II ▷ : DECK II forward recording
II ◁ : DECK II reverse recording
∞ : Auto-reverse function
→ : Relay

REV MODE switch	Starting playback button	Another deck mode	Recording sequence
⇄	DECK I▶	II▶	I▷→II▷
⇄	DECK I▶	II◀	I▷→II◁
⇄	DECK I◀	II▶	I◁→II▷
⇄	DECK I◀	II◀	I◁→II◁
⇉ or ⇆	DECK I▶	II▶	I▷∞I◁→II▷∞II◁
⇉ or ⇆	DECK I▶	II◀	I▷∞I◁→II◁
⇉ or ⇆	DECK I◀	II▶	I◁→II▷∞II◁
⇉ or ⇆	DECK I◀	II◀	I◁→II◁



ne the order of
this operation.

tion.

to the ⇄ posi-
to either the ⇄

cassette deck

e in stop mode,

e CD player be-

SYNC button is
ack until the but-
to advance the
blank section on

ding (CT-W602R

CD player (CT-

When the end of the tape is reached while the CD player is still playing:

The CD player returns to the beginning of the selection currently-playing and then enters the pause mode. To resume recording, load another tape and check the tape running indicator to ensure that the tape is moving in the desired direction. If not, press the playback (▶ or ◀) button to change the tape direction, then immediately press the stop (■) button. The tape running indicator will change direction. Synchro recording can be resumed by pressing the CD SYNC button again. (The CD SYNC button should be pressed within 1 minute. If more than 1 minute elapses, the CD player will enter stop mode.)

If the auto-reverse function operates while the CD is still playing:

The CD player returns to the beginning of the current selection and enters pause mode.
A ten-second blank space is automatically created on the reverse side, then the CD player resumes playback and the deck resumes recording.

For CT-W602R only

■ Relay recording (Press the RELAY/SKIP button.)

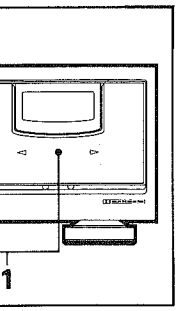
- After DECK I stops, DECK II starts to record.
- If the CD player stops playback while DECK I is recording, DECK I stops and DECK II starts recording from the beginning of the CD (if the CD player is either a twin or multi CD player, DECK II will record the next CD).

NOTE:
During relay recording, DECK I stops when CDs are changed as well as when the tape in DECK I reaches the end, and DECK II starts recording.

- A twin CD player is twin-tray compact disc player.
- A multi CD player is magazine compact disc player (sequential playback of 6 compact-discs).

NOTES:
- *The CD · DECK SYNCHRO function only works with PIONEER CD players equipped with the CD · DECK SYNCHRO function.*
- *Be sure to connect the deck and the CD player with the CD · DECK SYNCHRO control cord.*
- *Only PIONEER CD players equipped with a CD · DECK SYNCHRO jack can be used for CD · DECK SYNCHRO recording. Any type of CD player which meets these requirements, including twin-tray or multiplay models, can be used.*

n DECK I to DECK II)



1

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lect either normal
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l and a tape for

direction indicated
To change this di-
n (▶ or ◀), then im-

o select either

l speed allows listen
ndicator lights stead-

the normal speed

ends, both decks will

to resume tape copy-

To stop copying

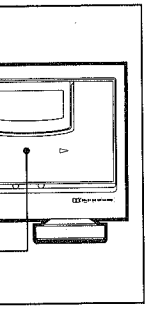
Press the stop (■) button of either deck. Both decks will stop.

NOTES:

- ***The tape in DECK II will be copied in the same type of the DOLBY NR switch as DECK I's tape, regardless of its own setting. When listening to the copied tape, set the type of the DOLBY NR switch.***
- *If a nearby television set is on while high-speed copying is being performed, a high-pitched interference sound may be heard on the tape. In this case, either use the normal speed copying function, or turn off the television.*
- *During high-speed copying, none of the operation buttons will function except for the stop (■) button.*
- *During normal speed copying, the recording mute (○) and pause (❚❚) buttons of deck II also function.*
- *Tape copying is cancelled when either of the two tapes reaches the end. Therefore it is advisable to use tapes of the same length.*
- *The sound quality of the copied tape will be somewhat less than the original. Therefore when making more than one copy, always record from the original tape (do not make a copy of a copy).*
- *The recording level adjustment is not necessary during tape copying.*

YBACK USING AN AUDIO TIMER

eck II)



ward direction.
ound.

CT-W402R.
ck.
portion of the

layback is to

ower of all con-

Y position.
r will be turned

used; be sure to
o timer you ac-

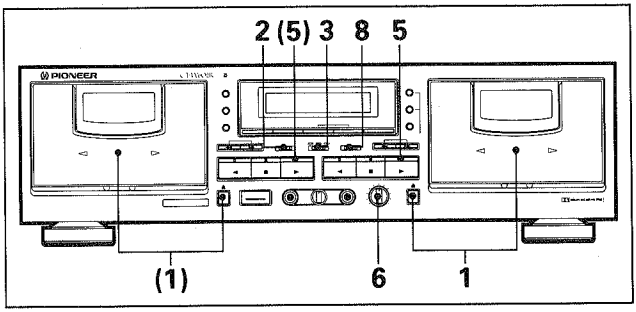
CK II, relay play-
when the power

ake-up playback

ne TIMER mode
ack might begin

UNATTENDED RECORDING

CT-W602R: DECK I and/or DECK II
CT-W620R/CT-W502R/CT-W420R/CT-W402R: DECK II only



1. **Load the tape(s) for recording.**
   - Timer recording always begins in the forward direction. Make sure that the tape is properly rewound.
2. **Set the DOLBY NR switch.**
3. **Set the REV MODE switch.**
4. **Prepare the audio source.**
   - Set the amplifier input selector to tuner, then tune in the desired station.
5. **Press the recording (●) button.**
6. **Adjust the recording level.**
7. **Set the audio timer.**
   - When the timer is set, it will turn off the power of all connected components.
8. **Set the TIMER mode switch to the REC position.**
   - At the preset time, the power will be turned on, and recording will begin automatically.

NOTE for CT-W602R:

- *When tapes are inserted into both DECK I and DECK II, relay recording from DECK I to DECK II will be performed when the power comes on.*

NOTES:

- *Timer recording will not work if the erasure prevention tabs of the tape loaded in Deck II have been removed.*
- *Operations depend on the type of audio timer used; be sure to consult the operating instructions of the audio timer you ac-*

G

uble and malfunctions. If you think that there is something wrong with this component, check lie in another component. Investigate the other components and electrical appliances being ter exercising the checks listed below, ask your nearest PIONEER authorized service center or

Cause	Remedy
lug is removed. ent (stereo amplifier, audio timer, the power cord is connected is off.	• Insert the power plug correctly. • Turn the stereo amplifier or audio timer on.
ot in stop mode (tape is moving). urned off with the tape moving.	• Press the stop (■) button. • Turn power on.
is not properly loaded.	• Reinsert the cassette.
ompletely wound. lack.	• Play back in the opposite direction. • Rewind the tape. • Take up slack (see page 5).
ot prerecorded. **ad is dirty.**	• Replace the tape with a prerecorded one. • **Clean the heads (see page 4).**
input selector is not correctly set. volume level setting is too low. roblems (wrong connection, cord or contact, broken wire.)	• Set the amplifier input selector correctly. • Turn the amplifier volume control up. • Connect securely (see page 6).
erasure prevention tabs are broken.	• Replace the cassette with one whose tabs are intact. • Cover the hole over the tab (see page 5).
ontrol is set too low. is not delivering a recording signal er, CD player, etc.). ection, connection cord removed, broken wire.	• Turn REC LEVEL control up (see page 13). • Set the amplifier recording output selector correctly. • Check connections (see page 6).
ompletely wound up. lack.	• Record in the opposite direction. • Rewind the tape. • Take up slack (see page 5).
dirty.	• **Clean the head (see page 4).**

Cause	Remedy
n rollers and capstans are dirty. uniformly wound.	• **Clean (see page 4).** • Completely fast-forward or rewind the tape.
without Dolby NR is being n DOLBY NR switch in the B or C **ty.**	• Set DOLBY NR switch to OFF. • **Clean the head (see page 4).**
oded tape is being played back switch in the OFF position.	• Set DOLBY NR switch to the same position used for recording.
ty.	• **Clean the head (see page 4).**
is too high. gnal itself is distorted. **ty.**	• Turn REC LEVEL control down when recording (see page 13). • Replace the cassette. • **Clean the head (see page 4).**
is being used. rtion of a connection cord, poor is too low. **ty.** gnetized.	• Replace the cassette. • Check connections (see page 6). • Turn REC LEVEL control up when recording (see page 13). • **Clean the head (see page 4).** • Demagnetize with a head demagnetizer.
selections are less than 4	• Use a tape with blanks more than 4 seconds long.
vitch is set to the PLAY or REC	• Set TIMER mode switch to OFF.
d is not connected.	• Connect the control cord (see page 6).
ts are not connected properly. asure prevention tabs are broken.	• Connect them properly (see page 6). • Replace the cassette with one whose tabs are intact.
ut during the CD · DECK SYNCHRO	• Replace the tape with a longer one.

R

k, 2-channel stereo

.....
playback head × 1
playback head × 1
" erasing head × 1
playback head × 2
" erasing head × 2
C servo motor × 2

nan 0.09% (WRMS)
than ±0.19% (DIN)
than 0.1% (WRMS)
econds (C-60 tape)

.....25 to 16,500 Hz
.....25 to 16,000 Hz
.....25 to 16,000 Hz

... More than 57 dB

an 10 dB (at 5 kHz)
an 19 dB (at 5 kHz)
No more than 0.8%
-4 dB: 160 nwb/m)

impedance 68 kΩ)
V (CT-W602R only)

impedance 3.2 kΩ)
ad impedance 8 Ω)

602R)

02R only)

→ Deck II)

Miscellaneous

Power Requirements
- U.S., Canadian models ..... AC 120 V, 60 Hz
- U.K. model ..... AC 230—240 Volts~, 50/60 Hz

Power Consumption
- CT-W620R ..... 19 W
- CT-W602R ..... 18 W
- CT-W502R ..... 16 W

Dimensions
- CT-W620R/CT-W602R U.S. and Canadian model ..... 420 (W)×125 (H)×250 (D) mm
  16-1/2 (W) × 4-15/16 (H) × 9-13/16 (D) in
- CT-W502R U.S. and Canadian model ..... 420 (W) × 120 (H) × 250 (D) mm
  16-1/2 (W) × 4-3/4 (H) × 9-13/16 (D) in

Weight (without package)
- CT-W620R/CT-W602R ..... 4.3 kg (9 lb 7 oz.)
- CT-W502R ..... 4.2 kg (9 lb 4 oz.)

Accessories

- Operating instructions 1
- Connection cord with pin plugs 2
- SR Remote control cord 1
- CD · DECK SYNCHRO control cord 1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.

2-channel stereo
ayback head × 1
ayback head × 1
erasing head × 1
servo motor × 2
an 0.1% (WRMS)
conds (C-60 tape)

...25 to 16,500 Hz
...25 to 16,000 Hz
...25 to 16,000 Hz

More than 57 dB

n 10 dB (at 5 kHz)
n 19 dB (at 5 kHz)
more than 0.8%
dB: 160 nwb/m)

mpedance 68 kΩ)

npedance 3.2 kΩ)
CT-W420R only)

R, DECK II only)

DECK II)

Miscellaneous

Power Requirements
- U.S., Canadian models ..... AC 120 V, 60 Hz
- U.K. model ..... AC 230—240 Volts~, 50/60 Hz

Power Consumption
- CT-W420R ..... 16 W
- CT-W402R ..... 15 W

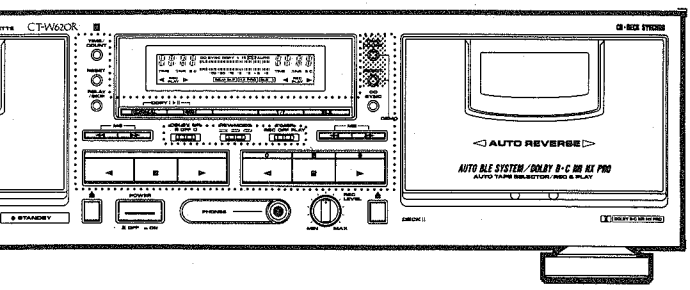
Dimensions
- U.K. model ..... 420 (W) × 120 (H) × 250 (D) mm
  16-1/2 (W) × 4-3/4 (H) × 9-13/16 (D) in
- U.S. and Canadian models ..... 420 (W) × 120 (H) × 250 (D) mm
  16-1/2 (W) × 4-3/4 (H) × 9-13/16 (D) in

Weight (without package) ..... 4.2 kg (9 lb 4 oz.)

Accessories

Operating instructions 1
Connection cord with pin plugs 2
SR Remote control cord 1
CD · DECK SYNCHRO control cord 1

NOTE:
Specifications and design subject to possible modifications without notice, due to improvements.



t the Demo mode

he DECK II counter reset button (RESET) and the DECK II ounter button (TIME/COUNT) simultaneously to set the stration mode. To cancel the demonstration mode, any one of the buttons enclosed in the dotted lines

e unit you've just njoyment. Now it's fun and excitement d the Electronic s Group want you aying it at a safe loud and clear most importantly,

earing "comfort what sounds your hearing. t at a safe level

We Want You Listening For A Lifetime

Used wisely, your new sound equipment will provide a lifetime of fun and enjoyment. Since hearing damage from loud noise is often undetectable until it is too late, this manufacturer and the Electronic Industries Association's Consumer Electronics Group recommend you avoid prolonged exposure to excessive noise. This list of sound levels is included for your protection.

Decibel Level	Example
30	Quiet library, soft whispers
40	Living room, refrigerator, bedroom away from traffic
50	Light traffic, normal conversation, quiet office
60	Air conditioner at 20 feet, sewing machine
70	Vacuum cleaner, hair dryer, noisy restaurant
80	Average city traffic, garbage disposals, alarm clock at two feet.

THE FOLLOWING NOISES CAN BE DANGERCUS UNDER CONSTANT EXPOSURE

90	Subway, motorcycle, truck traffic, lawn mower
100	Garbage truck, chain saw, pneumatic drill